

REMARKS/ARGUMENTS

Claims 1-4, 6-16 and 21-26 are pending herein. Claims 5 and 17-20 have been cancelled hereby without prejudice or disclaimer, and the features of claim 5 are now recited in rewritten independent claims 1-4. New claims 23-26 have been added hereby. Applicants respectfully submit that support for the new and rewritten claims can be found, for example, at least in paragraphs [0085]-[0088], and [0093]-[0097] of the original specification, and in original claims 1-5 and 21, and that no new matter has been added.

1. The §112, second paragraph rejection of claims 5 and 16-22 is noted, but deemed moot in view of the rewritten claims submitted above. Accordingly, Applicants respectfully request that the above rejection be reconsidered and withdrawn.
2. Claims 1-22 were rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-21 of U.S. Patent No. 6,949,284. To the extent that the PTO might attempt to assert this rejection against the new and rewritten claims submitted above, it is respectfully traversed.

Rewritten independent claims 1 and 2 include the technical features that titanium dioxide fine particles with eliminated or reduced photocatalytic activity comprise an organometallic zinc compound present on the surfaces of the cobalt-doped titanium dioxide fine particles, and that the zinc organometallic compound is at

least one compound selected from the group consisting of zinc acetylacetonate, zinc benzoate, zinc acetate, and zinc 2-ethylhexylate.

Rewritten independent claims 3 and 4 include the technical features that titanium dioxide fine particles with eliminated or reduced photocatalytic activity comprise a coating layer comprising an inorganic compound that reduces or eliminates photocatalytic activity coated on the titanium dioxide fine particles, and an organometallic zinc compound present on the surface of the coating layer, and that the zinc organometallic compound is at least one compound selected from the group consisting of zinc acetylacetonate, zinc benzoate, zinc acetate, and zinc 2-ethylhexylate.

U.S. Patent No. 6,949,284 discloses a coating composition comprising rutile type titanium oxide coated with an inorganic compound that decreases or eliminates a photocatalyst compound activity, and an organic compound and/or organometal compound having an anionic polar group. Applicants respectfully submit, however, that the claims of the '284 patent fail to disclose or suggest that an organometallic zinc compound is present on the surface of cobalt-doped titanium dioxide fine particles, or is present on the surface of a coating layer comprising an inorganic compound that is formed on surfaces of cobalt-doped titanium dioxide fine particles. Moreover, Applicants respectfully submit that the claims of the '284 patent fail to disclose or suggest that the organometallic zinc compound is at least one compound selected from the group consisting of zinc acetylacetonate, zinc benzoate, zinc acetate, and zinc 2-ethylhexylate.

When an organometallic zinc compound is not present on the surface of the cobalt-doped titanium dioxide fine particles, or is not present on the surface of a coating layer comprising an inorganic compound that is formed on the surfaces of the cobalt-doped titanium dioxide fine particles, the advantages of the present invention cannot be provided. Applicants respectfully submit that this is supported by Examples 1-4 of the present specification, for example.

That is, the cobalt-doped titanium dioxide fine particles in Examples 2 and 4, and the cobalt-doped titanium dioxide fine particles that are coated with hydrous aluminum oxide in Examples 1 and 3, are surface treated by zinc acetyl acetate. The results of Examples 1-4 show that, even after a time lapse of 200 hours, the steel wool resistance is equal to that seen at the initial stage. In contrast, Comparative Examples 1-3 do not have titanium dioxide fine particles surface treated by zinc acetyl acetate. The results of Comparative Examples 1-3 show that deterioration occurred before the lapse of 200 hours. Therefore, in order to obtain the advantages of the present invention, Applicants respectfully submit that it is necessary to provide a specific organometallic zinc compound present on the surface of cobalt-doped titanium dioxide fine particles, or present on the surface of the coating layer comprising an inorganic compound that formed on the surfaces of the cobalt-doped titanium dioxide fine particles.

Since the claims of the '284 patent fail to disclose or suggest each and every feature of the pending independent claims, Applicants respectfully request that the above rejection be reconsidered and withdrawn.

3. Claims 1-4, 6-12 and 14 were rejected under §102(b) over Yasuda. To the extent that the PTO might attempt to assert this rejection against the new and rewritten claims submitted above, it is respectfully traversed.

As noted above in Section 2, the specific features of independent claims 1-4 are required in order to achieve the particular benefits attributable to the present invention, namely improved durability. The present invention provides an antireflective film having excellent durability by eliminating or reducing deterioration of the antireflective film, which is otherwise caused by photocatalytic action.

On the other hand, Applicants respectfully submit that Yasuda discloses an antireflective film comprising inorganic fine particles, such as titanium dioxide fine particles, and that the inorganic fine particles may be surface-treated with inorganic compounds or organic compounds. Applicants respectfully submit, however, that Yasuda fails to disclose or suggest that an organometallic zinc compound is present on surfaces of cobalt-doped titanium dioxide fine particles, or is present on the surface of a coating layer comprising an inorganic compound that is formed on surfaces of cobalt-doped titanium dioxide fine particles.

Moreover, Yasuda fails to disclose or suggest that the organometallic zinc compound is at least one compound selected from the group consisting of zinc acetylacetonate, zinc benzoate, zinc acetate, and zinc 2-ethylhexylate.

Independent claims 1-4 each recite the features of dependent claim 5, which has been cancelled accordingly. Since claim 5 was not rejected over the prior art, Applicants respectfully submit that independent claims 1-4, and all claims respectively

depending therefrom, define patentable subject matter over Yasuda. Accordingly, Applicants respectfully request that the above rejection be reconsidered and withdrawn.

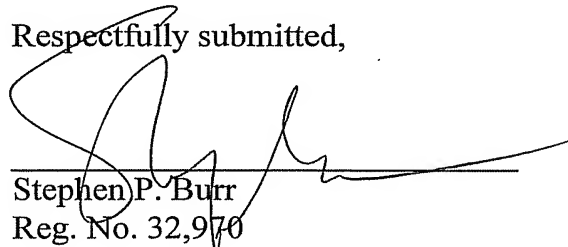
If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

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Date

Respectfully submitted,



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